PROTECTION SOLUTIONS CATALOGUE

CBRN / MILITARY

www.ansell.com

Ansell

Ansell is a leading global provider of protection solutions. Our company designs, develops and manufactures a wide range of protection solutions that meet the ever-changing needs and demands of our valuable end users. Protecting people while they work in hazardous environments has always been our focus, and users around the world depend on Ansell in their professional and personal lives.

The threats posed by a potential CBRN (chemical, biological, radiological, nuclear) incident—whether caused by accident or by a deliberate attack—are constantly evolving. For military, including civil defense units, armed and Special Forces, national home guard organizations, coast guard, and CBRN defense units around the world, it poses a continuous challenge to stay abreast of these developments. Not only does it require knowledge, capability, preparedness, and training to be able to meet the threat, but military professionals tasked with handling such incidents and substances—as first, second, or third responders—also need proper protection!

This brochure primarily focuses on chemical and biological agents and the personal protective equipment (PPE) designed to mitigate these hazards. PPE for radiological and nuclear materials will be mentioned, but it falls outside the primary product focus of Ansell.

Ansell specialises in manufacturing protective hand and body gear, including an extensive portfolio of gloves, chemical suits, and diving suits to keep you protected in the toughest of situations. Our VIKING™ diving suits offer protection underwater along with the critical non-magnetic profile required for mine clearance missions. Protecting people while they work in hazardous environments will always be our focus. These professionals, often in the front line, demand and deserve the best possible protection available. We at Ansell want you to feel confident to ***prepare to respond*** to every call.

Every day millions of people around the world rely on our renowned brands AlphaTec®, VIKING™, RINGERS® and MICROFLEX®.

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COMPLYING WITH PERSONAL PROTECTIVE EQUIPMENT REGULATION

In February 2016, the European Council and European Parliament amended and approved a PPE Regulation by the European Commission - Regulation 2016/425.

The regulation applies to professional as well as private use and to distributors selling PPE products. It provides additional conformity assessment requirements, such as the need for an internal production control system and valid type examination certificates for a maximum of 5 years. The regulation also provides specific requirements for every economic operator involved in the supply chain, as well as additional documentation requirements linked to the instructions for use and conformity declarations.

The PPE regulation specifies three categories based on risk definitions.

CE

PPE Category I

Minimal risk

For PPE of simple design offering protection from low-level risks, manufacturers are permitted to test and certify PPE themselves.

PPE Category II

Risks other than those listed in Categories I and III

PPE designed to protect against intermediate risk must be subjected to independent testing and certification by a notified body. Only these notified bodies may issue a CE mark. Without a proper CE mark, the PPE may not be sold or used. Each notified body has its own identification number. The name and address of the notified body that certifies the product must appear on the instructions for use that will accompany the PPE.

CE 0493

PPE Category III

Very serious risks, which may cause death or irreversible damage to health

PPE designed to protect against the highest levels of risk (e.g., chemicals, biological agents, electric shock and live working) must also be tested and certified by a notified body. In addition, the quality assurance system used by the manufacturer to guarantee homogeneity of production must be independently checked. The body carrying out this evaluation must also appear on the instructions for use and be identified by a number that appears alongside the CE mark. In this example, the number 0493 represents Centexbel.

COMPLYING WITH OTHER REGULATIONS

Ansell and REACH

All Ansell products fully comply with the legal requirements of REACH and its amendments. We ensure the pre-registration of all required chemicals used in our products and are actively looking for ways to replace SVHC chemicals subject to regulation, prior to their restriction or ban.

The Ansell REACH statement can be found on our website and more information is available through the Ansell customer service or regulatory department.

Authorised Economic Operator (AEO) Certification

Ansell Healthcare Europe has been granted AEO as the company is demonstrating the standards for customs compliance, appropriate recordkeeping, financial solvency and, where relevant, appropriate security and safety standards. This certification identifies Ansell as a reliable partner in all our dealings with other companies, but more particularly with customs locally and abroad, speeding up our supply chain with less controls, making it safer as more companies prioritise on inspections and permit requests as well as mutual recognition with C-TPAT, the US' Customs-Trade Partnership Against Terrorism.

GUIDE TO STANDARDS FOR CHEMICAL PROTECTIVE CLOTHING

To assist you with the selection of appropriate protection solutions based on the exposure risk, the EU developed six types of chemical protective clothing (CPC).

EU Certification of a particular type offers an indication of your suit's protection against a particular hazard (e.g. gas/vapour, liquid or dust). As a manufacturer, it is our responsibility to ensure that Ansell meets the requirements of these standards, where applicable. Please be aware that conformance to these type standards does not mean that your suit is 100% impervious to your hazard. For first responders to hazardous chemical incidents there is a specific standard, EN 943-2 that is applicable for the highest level of chemical protection. This standard specifies higher mechanical requirements compared to EN 943-1 and requires chemical permeation testing with a minimum list of 15 aggressive chemicals. For top level chemical protection, AlphaTec® suits are certified to the latest edition of these standards i.e. EN 943-1:2015+A1:2019 and EN 943-2:2019. For more information contact your Ansell representative.

Other than EU standards there are US Standards issued by the National Fire Protection Association for hazardous chemical emergencies (hazmat) response e.g. the NFPA 1991 as incorporated in NFPA 1990, which is considered the most demanding chemical protection standard in the world.

Current European Types Of Chemical Protective Clothing including Diving Suits		
Symbol*	**EN Types**	**Definition**
TYPE 1	**EN 943-1 and 2** Type 1	**Gas-tight chemical protective clothing** Protective clothing against liquid and gaseous chemicals, aerosols and solid particulates
TYPE 1a	Type 1a	› **Gas-tight encapsulating, self-contained breathing apparatus inside the suit**
TYPE 1a-ET	Type 1a-ET	› **Type 1a for emergency teams**
TYPE 1b	Type 1b	› **Gas-tight non-encapsulating, self-contained breathing apparatus outside the suit**
TYPE 1b-ET	Type 1b-ET	› **Type 1b for emergency teams**
TYPE 1c	Type 1c	› **Gas-tight, with breathable air supplied via continuous flow airline**
TYPE 3	**EN 14605** Type 3	**Liquid-tight protection** Suits which can protect against strong and directional jets of liquid chemicals
TYPE 4	**EN 14605** Type 4	**Spray-tight protection** Suits which offer protection against saturation of liquid chemicals
TYPE 5	**EN ISO 13982-1** Type 5	**Dry-particulate protection** Suits which provide protection to the full body against airborne solid particulates
TYPE 6	**EN 13034** Type 6	**Reduced-spray protection** Suits which offer limited protection against a light spray of liquid chemicals
	EN 14225-2	**Diving suits, dry suits** Construction and performance of dry suits for wear by divers for underwater activities. Optional requirements for added chemical and biological protection

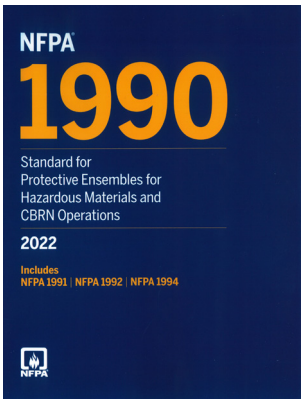
Other European Standards relevant to AlphaTec® Chemical Protective Clothing including Diving Suits		
Symbol*	**EN Types**	**Definition**
EN 1073	**EN 1073-1****	Ventilated protective clothing against radioactive particulate contamination
	EN 1073-2**	Non-ventilated protective clothing against radioactive particulate contamination
EN 14126	**EN 14126**	Protective clothing against infective agents (Type suffixed with "-B" – e.g. Type 3-B) indicates approval to this European norm
EN 1149-5	**EN 1149-5**	Protective clothing with electrostatic properties***
FR	**EN ISO 14116**	Protective clothing – limited flame spread materials, material assemblies and clothing
EN 12941	**EN 12941**	Respiratory protective devices – powered filtering devices incorporating a helmet or a hood

KOSHA Standard relevant to AlphaTec® Chemical Protective Clothing including Diving Suits	
Symbol*	**Definition**
KCs	The KCs mark demonstrates that industrial equipment and machinery are safe and consistent quality in manufacturing process is ensured.

Disclaimer: Ansell garments are available for most applications. However, please note that a detailed assessment of the nature of the hazard and the working environment should be undertaken prior to the selection of appropriate PPE. Ansell provides the information in this product catalogue to assist you with selecting the correct product, but responsibility for the correct choice of PPE remains with the user.
* Ansell representation of symbols, imagery not defined by EN standards. Type approvals do not necessarily apply to accessories. Always refer to the garment label and instructions-for-use document which will indicate the protection level offered.
** Gives no protection against ionising radiation.
*** Always ensure the garment and wearer are properly grounded.

GUIDE TO NFPA STANDARDS

The National Fire Protection Association (NFPA) issues standards on chemical protective clothing (CPC) for hazmat teams, first responders etc. Because of the intended areas of use these standards are typically more demanding than the European CEN standards for chemical protective clothing. The NFPA series of standards for use by emergency responders during hazardous materials emergencies and CBRN terrorism incidents, has undergone a review and is now available as a "bundle standard", namely the NFPA 1990 edition 2022 but the individual standards references NFPA 1991, 1992 and 1994 will still be used to designate and discriminate between the ensembles and the levels of protection they provide respectively. The standards may be linked to and used for the protection required by the EPA/OSHA levels A-D.



NFPA 1991 level of 1990 Standard on Vapor-Protective Ensembles for Hazardous materials Emergencies and CBRN terrorism incidents

The standard specifies the requirements for vapor protective ensembles intended to offer the highest level of chemical protection and the ensemble is designed to protect emergency response personnel during hazardous material emergencies and CBRN terrorism incidents from specific chemicals in a vapour or liquid splash environment. This level corresponds to EPA/OSHA level A.

NFPA 1991 ensembles are designed to be used with self-contained breathing apparatus (SCBA) in immediately dangerous to life and health (IDLH) environments.

These are fully encapsulating suits that cover both the wearer and the respirator. Some key NFPA 1991 requirements include:

- highest MIST (Man-in-Simulant Tests) protection factor requirement
- barrier criteria permeation testing after flexing plus abrasion at 32°C
- testing of materials and seams to a broad range of chemicals, including TICs and CWAs with levels at 100% concentration over 1-hour period
- optional criteria for liquefied gas exposure and chemical flash fire (Pyroman™).

The above makes the NFPA 1991 the most demanding standard for chemical protective clothing in the world.

Ansell certified products include products AlphaTec® EVO and FLASH.

NFPA 1994 level of 1990 Standard on Protective Ensembles for Hazardous Materials Emergencies and CBRN Terrorism Incidents

The NFPA 1994 specifies minimum performance requirements for hazardous materials emergencies and CBRN terrorism incidents for a series of 5 protection levels. These range from for high vapor/liquid protection level to solid particulates. It can be noted that the overall top level of protection is still specified by NFPA 1991. NFPA 1994 classes 2-4 have additional option requirements for ruggedness (-R) and stealth.

NFPA 1992 level of 1990 Standard on Liquid Splash-Protective Ensembles and Elements for Hazardous Chemical Emergencies

This standard specifies the requirements for liquid splash–protective ensembles i.e., not intended for protection from gases or vapors. The standard covers full ensembles and separate garments, gloves, and footwear. The materials are tested for penetration barrier against a range of "industrial" type of chemicals i.e. excluding any warfare agents and excluding highly toxic and high vapor pressure liquids producing hazardous vapors. NFPA 1992 is an ensemble standard but it also allows for certification of separate ensemble elements (hood, garment, glove or footwear).

Ansell certified products include AlphaTec® 4000 Models 111, 121, 122, 125, 151 G00 & G02.

NFPA Hazmat / CBRN Ensembles

	NFPA 1991	NFPA 1994 Class 1	NFPA 1994 Class 2	NFPA 1994 Class 3	NFPA 1992
Scope	CBRN / Hazmat Response – Vapour	CBRN / Hazmat Response – Vapour	CBRN / Hazmat Response – Vapour	CBRN / Hazmat Response – Liquid	Hazmat Response – Liquid
Design	Encapsulating	Encapsulating Non-Encapsulating	Encapsulating Non-Encapsulating	Encapsulating Non-Encapsulating	Encapsulating Non-Encapsulating
Respirator	SCBA	SCBA	SCBA	CBRN PAPR or SCBA	CBRN SCBA, PAPR or APR
Garment integrity criteria	Pressure Test MIST Inward leakage $PPDF_i$ >1071 "Shower test" 60min	Pressure Test MIST Inward leakage $PPDF_i$ >871 "Shower test" 20min	MIST Inward leakage $PPDF_i$ >481 "Shower test" 20min	MIST Inward leakage $PPDF_i$ >80 "Shower test" 8min	"Shower test" 20 min
Options	Overall Flash fire Liquefied gas protection	Overall Flash fire	Overall Flash fire	Overall Flash fire	Overall Flash fire
Challenge chemicals	23 Industrial / TICs 2 CWA (HD, GD)	9 Industrial / TICs CWA (HD, GD)	4 Industrial / TICs 2 CWA (HD, GD)	4 Industrials / TICs CWA (HD, GD)	10 Industrial

TIC's = Toxic Industrial Chemicals CWA = Chemical Warfare Agents MIST = Man-in-Simulant Test PPDF = Physiological Protective Dosage Factor
NFPA 1994 class 4 (particulate protection) and class 5 (liquid repellent FR ensemble) omitted here

AlphaTec® Against CBRN

CBRN are weaponized or non-weaponized materials that, if released, can cause great harm and pose significant threats. CBRN warfare agents were originally developed for use in war but the risk of such agents and other hazardous materials being used in an act of terrorism is a potential threat today.

A chemical attack is the spreading of toxic chemicals with the intent to do harm. A wide variety of chemicals could be made, stolen or otherwise acquired for use in an attack. Harmful chemicals that could be used in an attack include:

- Chemical weapons (warfare agents, CWAs) developed for military use. Example: Sarin, Vx.
- Toxic industrial chemicals (TICs) and commercial chemicals. Example: acrolein, dimethyl sulfate.
- Chemical toxins of biological origin. Example: ricin.

CWA contaminate in different ways, such as through skin contact (e.g. mustard gas) or skin/inhaling (e.g. Vx). TICs can be chemical hazards (e.g. carcinogens, reproductive hazards, corrosives or agents that affect the lungs or blood) or physical hazards (e.g. flammable, combustible, explosive or reactive).

Biological warfare or terrorism agents include any pathogen (bacterium, virus or other disease-causing agent) or biotoxin (poisonous substance produced by a living organism) that can be used in an attack against humans, plants or animals to cause illness, death, fear, societal disruption and economic damage.

Examples of biological warfare agents:

- Anthrax (bacteria)
- Plague (bacteria)
- Ricin (plant toxin)

The AlphaTec® product range include suits that have been tested against infective agents according to the EN 14126 standard. All tested suits provide the highest level of protection class. Also, the biological protection can be assumed from the extensive chemical testing which is part of NFPA 1991 and 1994 classes 1 and 2 which define chemical barrier materials that will be efficient also against biological agents.

Radioactive materials are in daily use in laboratories, medical centers, food irradiation plants, and for industrial uses. If stolen or otherwise acquired, many of these materials could be used in a "radiological dispersal device" (RDD). One type of RDD is the "dirty bomb", which uses a conventional explosion to disperse radioactive material over a targeted area.

The AlphaTec® product range include suits that provide protection against radioactive particulate contamination (e.g. contaminated dust) and are certified to the EN 1073-1 or -2 standard for protective clothing against radioactive particles contamination. The EN 1073-2 standard was developed with the nuclear industry in mind, but does not provide any criteria for protection against ionizing radiation (e.g. gamma rays and X-rays). Also, particulate protection can be assumed from the extensive chemical testing which is part of NFPA 1991 and 1994 classes 1 -3 which define chemical barrier materials that will be efficient against radioactive particulate contamination.

Chemical Barrier Testing - USA / NFPA vs Europe / EN

The American NFPA standards differ from the European standards in several aspects. The European series of standards for chemical protective clothing were developed for industrial and general-purpose chemical protection and are "harmonized" to form part of the regulatory framework for workplace safety and the "single market" of the European Union.

The NFPA series of standards provide criteria primarily for responders to hazardous materials accidents, "hazmat", and CBRN terrorism. However, it could be noted that the European EN 943-2 is also aimed specifically at hazmat response. At a first glance, test methods and in particular permeation testing is done according to the same principles globally but looking at the chemical barrier criteria specified in the product standards a number differences can be found. A few key ones highlighted below.

Looking at the European chemical protective clothing types 1-6 it must be noted that the requirements and test methods are different, so it is not possible to relate them directly to each other.

Chemical permeation testing	American Product Standard NFPA 1991 (1990)	European Product Standard EN 943-2:2019
Permeation criteria based on	6 µg/cm² cumulative (less for CWA)	1.0 µg/cm²/min breakthrough or 150 µg/cm² cumulative
Minimum time requirement	60 minutes	30 minutes (1 exception allowed)
Number of mandatory test chemicals	23 pcs incl CWA	15 pcs, no CWA
Test temperature	+32°C	23°C
Mandatory flexing + abrasion specimen pre-treatment	Yes	No

GUIDE TO EUROPEAN STANDARDS FOR PROTECTIVE GLOVES

All Ansell gloves and sleeves which are sold conform to a wide array of standards such as ANSI and the European Union's Personal Protective Regulation (EU 2016/425).

EN 388 – Mechanical Protection

This standard applies to all kinds of protective gloves in respect of physical and mechanical aggressions caused by abrasion, blade cut, puncture & tearing.

Performance level rating		1	2	3	4	5
EN 388:2016 abcd	**a** Abrasion Resistance *(Cycles)*	100	500	2000	8000	–
	b Blade Cut Resistance *(Coupe Test/Index)*	1.2	2.5	5.0	10.0	20.0
	c Tear Resistance *(Newtons)*	10	25	50	75	–
	d Puncture Resistance *(Newtons)*	20	60	100	150	–

Expanded performance level rating according to EN 388:2016 (a–f)		A	B	C	D	E	F
EN 388:2016 abcdef	**e** EN ISO Cut Resistance *(Newtons)*	2	5	10	15	22	30
	f EN Impact Protection	PASS or FAIL					

Note: Level X can also be applied for a through e above, which means "not tested" or "not applicable"

EN ISO 374 – Chemical Protection and/or Protection against Micro-organisms

This standard specifies the capability of gloves to protect the user against chemicals and/or micro-organisms.

Micro-organisms	Performance levels	1	2	3
EN 374:2016 / EN ISO 374-5:2016 VIRUS	AQL (Acceptable Quality Level) for liquid penetration. A high index number is poor and a low index number is good. Gloves need to pass water and air leak test. In addition to testing for protection from bacteria and fungi, each glove can be tested for its protection against viruses with a viral penetration test.	4.0	1.5	0.65

Chemical protection

EN ISO 374-1:2016 Type C / EN ISO 374-1:2016 Type B XYZ / EN ISO 374-1:2016 Type A UVWXYZ

Type C At least Level 1 performance (more than 10 minutes) against at least one chemical on the list – cuffs are also tested.*

Type B At least Level 2 performance (more than 30 minutes) against at least three chemicals on the list – cuffs are also tested.*

Type A At least Level 2 performance (more than 30 minutes) against at least six chemicals on the list – cuffs are also tested.*

A. Methanol
B. Acetone
C. Acetonitrile
D. Dichloromethane
E. Carbon disulphide
F. Toluene
G. Diethylamine
H. Tetrahydrofurane
I. Ethyl acetate
J. n-Heptane
K. Sodium hydroxide 40%
L. Sulphuric acid 96%
M. Nitric acid 65%
N. Acetic acid 99%
O. Ammonium hydroxide 25%
P. Hydrogen peroxide 30%
S. Hydrofluoric acid 40 %
T. Formaldehyde 37%

Performance level	0	1	2	3	4	5	6
Minutes	< 10	10	30	60	120	240	> 480

The beaker icon (low chemical resistance/waterproof) has been eliminated.

* Only if the glove is >= 40 cm

EN 407 – Heat Protection

EN 407:2020 ABCDEF

Performance levels	1	2	3	4
A. Limited flame spread After flame time and after glowtime (finger & seams area)	≤ 15 sec no requir.	≤ 10 sec ≤ 120 sec	≤ 3 sec ≤ 25 sec	≤ 2 sec ≤ 5 sec
B. Contact heat (10 °C increase) Contact temperature and threshold time (glove palm and where relevant other areas)	100 °C ≥ 15 sec	250 °C ≥ 15 sec	350 °C ≥ 15 sec	500 °C ≥ 15 sec
C. Convective heat (24 °C increase) Heat transfer index (glove palm & back)	≥ 4 sec	≥ 7 sec	≥ 10 sec	≥ 18 sec
D. Radiant heat (24 °C increase) Heat transfer (back of glove)	≥ 7 sec	≥ 20 sec	≥ 50 sec	≥ 95 sec
E. Small drops of molten metal (40 °C increase) Number of droplets (glove palm & back & cuff)	≥ 10	≥ 15	≥ 25	≥ 35
F. Large quantities of molten metal (damage to a simulated PVC skin) Mass of molten iron (glove palm & back & cuff)	30 g	60 g	120 g	200 g

EN 511 – Cold Protection

EN 511:2006 ABC

Performance levels	0	1	2	3	4
A. Convective cold Thermal insulation ITR in m². °C/W	|< 0.10	0.10 <|< 0.15	0.15 <| 0.22	0.22 <|< 0.30	0.30 <|
B. Contact cold Thermal resistance R in m². °C/W	R < 0.025	0.025 < R < 0.050	0.050 < R < 0.100	0.100 < R < 0.150	0.150 < R
C. Water penetration test	Fail	Pass	-	-	-

EN ISO 21420 – General requirements

This pictogram indicates that the user has to consult the 'instructions for use'.

EN 421 – Radioactive Contamination & Ionising Radiation

EN 421:2010 — Gloves protecting from direct contact with radioactive substances.

EN 421:2010 — Gloves protecting from direct contact with radiations (X-ray, alpha-, beta-, gamma- or neutron radiations).

EN 60903 – Electrical Insulating Gloves

Gloves protecting from electrical voltage.

EN 14605

EN 14605:2005 +A1:2009 — Protective clothing against liquid chemicals - performance requirements for clothing with liquid-tight (Type 3) or spray-tight (Type 4) connections, including items providing protection to parts of the body only (Types PB [3] and PB [4]).

Note: 0 is the lowest rating while 4 is the highest.

OEKO-TEX® CONFIDENCE IN TEXTILES STANDARD 100

STANDARD 100 by OEKO-TEX® is one of the world's best-known labels for textiles tested for harmful substances. It stands for customer confidence and high product safety.

Dermatest® is an internationally renowned company based in Germany which tests products for dermatological tolerance. This certification guarantees skin friendliness.

LATEX

Latex-Free Gloves reduce the risk of skin irritations and allergic reactions.

Stay informed. Visit the Ansell EN Standards Resource Center: **ansell.com/enresourcecenter**

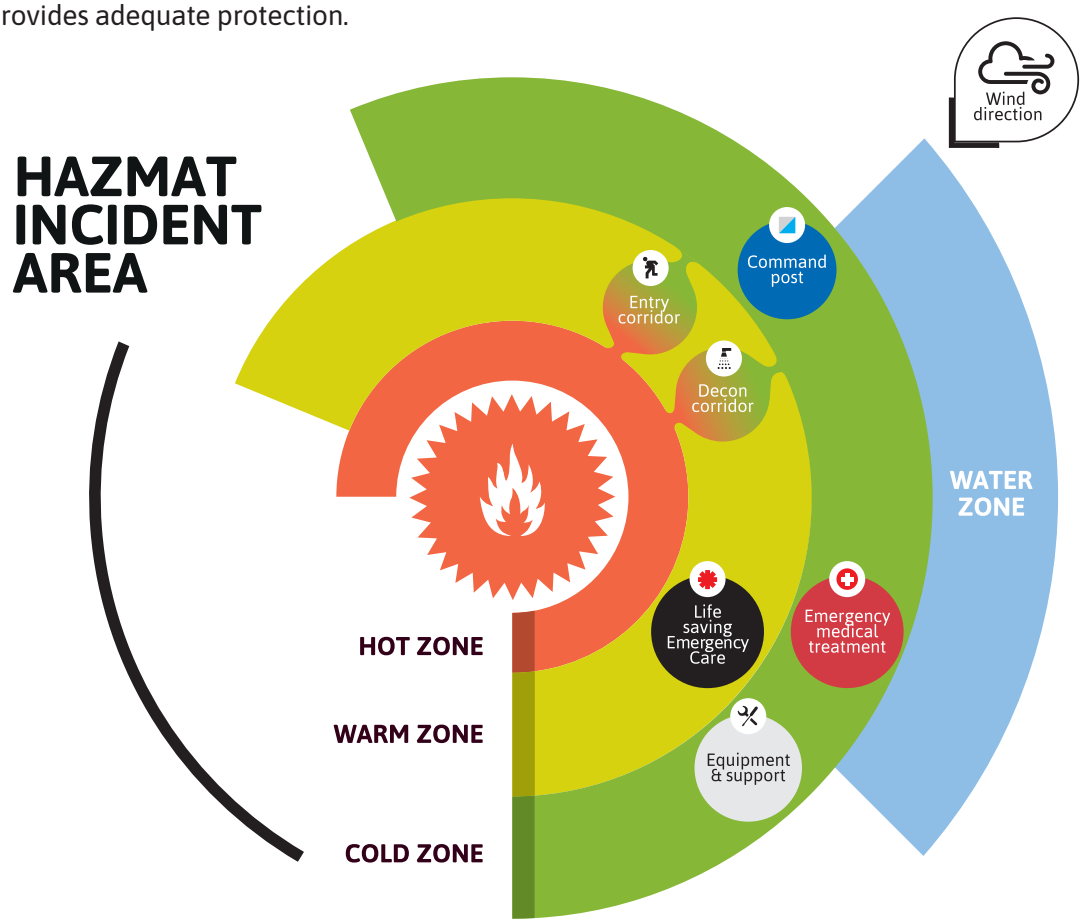
BODY PROTECTION SOLUTIONS FOR CBRN / TICs HAZMAT INCIDENT RESPONSE

The AlphaTec® Chemical Protective Clothing (CPC) range has been tested according to European as well as American standards. While Europe lacks an EN standard for protection against warfare agents, the chemical testing requirements of the US standard NFPA 1991, as incorporated in NFPA 1990, stipulates permeation testing with both industrial chemicals and warfare agents. Independently from any product standard or certification, Ansell has also performed extended testing with CWAs (chemical warfare agents) and TICs (toxic industrial chemicals) on EVO, FLASH and VPS.

The table below and the next page indicate the approvals of the suits in this brochure, and the appropriate application area of each suit in case of a hazardous materials (hazmat) incident.

	Product											
	AlphaTec®								VIKING™			
	EVO	FLASH	VPS	4000 151-G02	4000 122	4000 APOLLO	3000	2300 PLUS 132	PRO-TECH II	HAZ-TECH	PRO	VTS
Approvals	**p11**	**p12**	**p13**	**p14**	**p14**	**p15**	**p16**	**p17**	**p26**	**p26**	**p27**	**p27**
NFPA 1991 Base requirements	●	●										
NFPA 1991 Optional Flash fire protection	●	●										
NFPA 1991 Optional Liquefied gas protection	●	●										
NFPA 1992 Level B Hazardous chemical emergencies				●	●							
EN 943-1:2015+A1:2019	●	●	●									
EN 943-2:2019	●	●	●									
EN 14605:2005 + A1:2009 Type 3 (liquid-tight)				●	●	●	●	●				
EN 14605:2005 + A1:2009 Type 4 (spray-tight)				●	●	●	●	●				
EN ISO 13982-1:2004+A1:2010 Type 5 Particulate Protection				●	●		●	●				
EN 1073-2:2002 Radioactive particle protection	●	●	●	●	●		●	●				
EN 14126:2003 Infective agent/ Biohazard protection	●	●	●	●	●	●	●	●				
ATEX For use in explosive atmospheres	●	●					●					
EN 1149-5:2008 'Antistatic' material	●	●		●	●		●	●				
Extended 24 hour permeation tests	●											
EN 14225-2:2017 incl. BIO protection requirements									●	●	●	
EN 14225-2:2017 incl. HZ protection requirements									●	●		
EN 14225-2:2017												●
SOLAS	●		●									
CWA Tested	●	●	●									
TICs	●	●	●									
Covert Colour Option	Green	Green	Black						Black	Black	Black	Black
HAZMAT Incident Zone Compatibility	Hot			Warm								

The top priority for first responders when arriving at a hazmat incident scene is to isolate the scene by establishing a Hot/Exclusion Zone. Additional zones, including a Warm/Control Zone and a Cold/Support Zone should be defined at the first available opportunity. This may be the primary responsibility for the Incident Commander or of responders other than the Emergency Medical Services. Responders who are not properly trained and equipped should stay out of the Hot and Warm Zones. Entry into these zones requires a determination that the level of PPE being worn provides adequate protection.



The Ansell range of chemical protective clothing caters for each zone ranging from top of the range re-usable NFPA 1991 (1990) approved suits, through to disposable liquid spray and splash protective suits.

HOT ZONE

- Contaminated area immediately surrounding a hazmat incident
- Extends far enough to protect personnel outside the zone from adverse effects from hazardous material releases
- Minimise number of personnel in Hot Zone
- Operational times should be monitored
- Permeation breakthrough times should be available
- Presence in the Hot Zone requires appropriate PPE
- Encapsulating suits with individual breathing systems

Products: AlphaTec® EVO, AlphaTec® FLASH, AlphaTec® VPS

WARM ZONE

- Provides support to the Hot zone
- Control zone at a hazardous materials incident
- Personnel and equipment decontamination
- Includes control points for the access corridor
- Warm zone requires appropriate PPE

Products: AlphaTec® 4000 Model 151-G02, AlphaTec® 4000 Model 122, AlphaTec® 4000 APOLLO

COLD ZONE

- Provides the command post location and lower risk
- Transport and medical monitoring support functions
- Reduced risk of exposure to contaminants
- Cold zone requires appropriate PPE
- Personnel to wear light PPE such as disposable garments

Products: AlphaTec® 3000 Model 111, AlphaTec® 2300 PLUS Model 132

WATER ZONE

- Professional divers don't normally get to choose where to dive
- Must frequently dive in contaminated waters
- Cannot always see or smell contaminants
- Risk of exposure to multiple chemical or biological pollutants
- Hidden dangers hazardous to health

Products: VIKING™ HDS, VIKING™ PROTECH II, VIKING™ HAZTECH, VIKING™ PRO, VIKING™ VTS

Non-encapsulating design (type T)

HOT ZONE

AlphaTec®

EVO
TYPE CV

Previously known as: TRELLCHEM® EVO Type CV

Top of the range hazmat suit providing excellent protection against the most aggressive chemicals in liquid, vapour, gaseous and solid form, including warfare agents. Fully certified to the NFPA 1991 level of the US standard NFPA 1990 including the optional chemical flash fire and liquefied gas protection requirements. (this refers to sock version only)

KEY FEATURES & BENEFITS
- An "all-inclusive" hazmat suit
- Chemical resistant Viton™ rubber top coating
- Outstanding permeation times - tested for 24 hours
- Reusable
- SOLAS approved
- Available in red (standard) or olive green (upon request)
- Proven design which fits major SCBA bottles
- Bayonet ring system for fast, easy glove change

RECOMMENDED FOR
- Hazmat response and CBRN
- Chemical emergencies and hot zone
- Type T suits for work in confined space

STANDARDS & CERTIFICATION
- PPE Category III
- NFPA 1991 (1990) including optional chemical flash fire and liquefied gas protection
- EN 943-1:2015 & EN 943-2:2019 Type 1a/1b-ET
- Made of anti-static garment material (as defined in EN 1149-5)
- PyroMan™ tested (full-scale mannequin flame test)
- Approved for use in explosive environments, Zones 0, 1 ,2/20, 21, 22 and chemical group IIA, IIB, IIC

TYPE 1a-ET EN 1073-2 EN 14126 SOLAS

PRODUCT MATERIAL
Strong and flexible material that offers an outstanding barrier against a wide range of chemicals. Excellent degradation resistance, provided by the outer Viton™ layer, flame resistance and antistatic properties

SEAM TYPE
Stitched with aramid thread. Sealed on the outside with a glued-on rubber tape and on the inside with a welded-on barrier laminate tape. The welded-on barrier tape provides a continuous barrier layer across the seam, giving the same chemical protection as the garment material itself

MODELS AVAILABLE:
TYPE CV, TYPE VP1, TYPE T

Non-encapsulating design (type T) in orange.

HOT ZONE

AlphaTec®

FLASH
TYPE VP1

Previously known as: TRELLCHEM® FLASH Type VP1

High performance suit which provides excellent protection against hazardous chemicals in liquid, vapour, gaseous and solid form, including warfare agents. Fully certified to the NFPA 1991 level of the US standard NFPA 1990 including the optional chemical flash fire and liquefied gas protection requirements.
(this refers to sock version only)

KEY FEATURES & BENEFITS
- Excellent permeation times in combination with a high degree of flame resistance
- Reusable
- Available in orange (standard) or olive green (upon request)
- Proven design which fits major SCBA bottles
- Bayonet ring system for fast, easy glove change

RECOMMENDED FOR
- Hazmat response and CBRN
- Chemical emergencies and hot zone
- Type T suits for work in confined space

STANDARDS & CERTIFICATION
- PPE Category III
- NFPA 1991 (1990) including optional chemical flash fire and liquefied gas protection
- EN 943-1:2015 & EN 943-2:2019 Type 1a/1b-ET
- Made of anti-static garment material (as defined in EN 1149-5)
- PyroMan™ tested (full-scale mannequin flame test)
- Approved for use in explosive environments, Zones 2 / 21, 22 and chemical group IIA only

TYPE 1a-ET EN 1073-2 EN 14126

PRODUCT MATERIAL
Strong and flexible with an outstanding barrier against a wide range of chemicals. Excellent flame resistance and resistance to abrasion, provided by the aramid base fabric and the outer layer of chloroprene rubber

SEAM TYPE
Stitched with aramid thread. Sealed on the outside with a glued-on rubber tape and on the inside with a welded-on barrier laminate tape. The welded-on barrier tape provides a continuous barrier layer across the seam, giving the same chemical protection as the garment material itself

MODELS AVAILABLE:
TYPE CV, TYPE VP1, TYPE T

Encapsulating design (type CV) in yellow.

HOT ZONE

AlphaTec®

VPS
TYPE T

Previously known as: TRELLCHEM® VPS Type T

Versatile suit with excellent chemical resistance and durability, for the hazmat team. Certified to the toughest standard in Europe and with an extensive reference list, it is one of the most popular suits in the AlphaTec® gas-tight suit range.

KEY FEATURES & BENEFITS
- Offers very good abrasion and flame resistance
- Certified to the toughest standard in Europe - EN 943-2
- One of the most popular suits in the AlphaTec® gas-tight suit range
- SOLAS approved
- Non-encapsulating design, suitable for work in confined spaces
- Available in yellow (standard) or graphite (upon request)
- Bayonet ring system for fast, easy glove change

RECOMMENDED FOR
- Chemical emergencies
- Cleaning and maintenance
- Type T suits for work in confined space

STANDARDS & CERTIFICATION
- PPE Category III
- EN 943-1:2015 & EN 943-2:2019 Type 1a/1b-ET

TYPE 1a-ET EN 1073-2 EN 14126 SOLAS

PRODUCT MATERIAL
Outer polyamide fabric coated with chloroprene rubber. Inner chloroprene rubber and a multilayer barrier laminate

SEAM TYPE
Stitched with aramid thread for superior strength and durability. Sealed on the outside with a glued-on rubber tape and on the inside with a welded-on barrier laminate tape. The welded-on barrier tape provides a continuous barrier layer across the seam, giving the same chemical protection as the garment material itself

MODELS AVAILABLE:
TYPE CV, TYPE VP1, TYPE T

AlphaTec®

4000 MODEL 151

WARM ZONE

Previously known as: MICROCHEM® 4000 Model 151

Very popular with Police & Fire Hazmat crews all around the world, the AlphaTec® 4000 Model 151 is an easy and quick to don rear entry suit. Ideal for use in hazardous areas where protection against concentrated chemicals and biological agents is required.

KEY FEATURES & BENEFITS
- Neoprene rubber face seal
- Rear horizontal zip entry
- Attached socks with boot overflap
- Model 151-G02 includes attached AlphaTec® 02-100 gloves, with oversleeves and finger loops
- Models 151-G00 & 151-G02 are approved to NFPA 1992 (1990) Standard on Liquid Splash-Protective Ensembles and Clothing for Hazardous Materials Emergencies

RECOMMENDED FOR
- Ideal for Emergency services (HAZMAT, CBRN)

STANDARDS & CERTIFICATION
- PPE Category III
- NFPA 1992 (1990) Standard on Liquid Splash-Protective Ensembles and Clothing for Hazardous Materials Emergencies (Models 151-G00 & 151-G02)

PRODUCT MATERIAL
A unique multi-layer barrier fabric renowned for its lightweight, yet robust textile feel and exceptional barrier to organic & inorganic chemicals

SEAM TYPE
Ultrasonically welded & taped seams

FEATURED TECHNOLOGIES
MICROCHEM™ Chemical Barrier Technology

AlphaTec® 4000 Model 151-G00

AlphaTec®

4000 MODEL 122

WARM ZONE

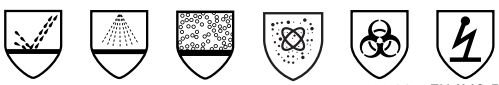
Previously known as: MICROCHEM® 4000 Model 122

Engineered to provide an exceptional barrier against a wide range of organic and inorganic chemicals and biological agents.

KEY FEATURES & BENEFITS
- Exceptional protection, over 200 chemicals permeation tested, including chemical warfare agents
- Designed to protect, typical innovative features include dual zip systems and double cuffs
- Model 122 has integrated socks with boot overflaps
- Enhanced comfort, knitted inner cuffs and inner textile type fabric improves wearer acceptance
- Model 122 is approved to NFPA 1992 (1990) Standard on Liquid Splash-Protective Ensembles and Clothing for Hazardous Materials Emergencies
- Anti-static, tested according to EN 1149-5

RECOMMENDED FOR
- Ideal for HAZMAT Emergency response (ie. Level B)

STANDARDS & CERTIFICATION
- PPE Category III
- NFPA 1992 (1990) Standard on Liquid Splash-Protective Ensembles and Clothing for Hazardous Materials Emergencies



PRODUCT MATERIAL
A unique multi-layer barrier fabric renowned for its lightweight, yet robust textile feel and exceptional barrier to organic & inorganic chemicals.

SEAM TYPE
Ultrasonically welded & taped seams

FEATURED TECHNOLOGIES
MICROCHEM™ Chemical Barrier Technology

Model 122 features integrated socks with boot overflaps

WARM ZONE

AlphaTec®

APOLLO
MODEL 126

Previously known as: MICROCHEM® APOLLO

Trusted by fire and rescue crews around the world. AlphaTec® 4000 APOLLO is a fully encapsulated liquid tight chemical protective suit designed for use in conjunction with self-contained breathing apparatus (SCBA).

KEY FEATURES & BENEFITS
- Rear entry double zip system
- Attached socks with boot overflap
- Attached AlphaTec® 02-100 gloves
- Clear face visor
- Bat-wing design enables air gauge checking within the suit
- Chest strap for DSU (Distress Signal Unit)
- Adjustable internal support braces

RECOMMENDED FOR
- Ideal for Emergency services (HAZMAT, CBRN)

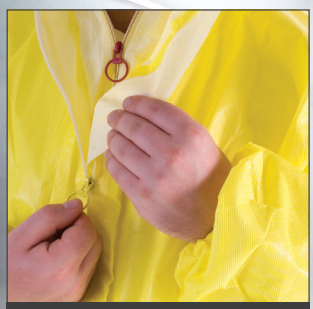
STANDARDS & CERTIFICATION
- PPE Category III

TYPE 3-B TYPE 4-B EN 14126

PRODUCT MATERIAL
A unique multi-layer barrier fabric renowned for its lightweight, yet robust textile feel and exceptional barrier to organic & inorganic chemicals

SEAM TYPE
Ultrasonically welded & taped seams

FEATURED TECHNOLOGIES
MICROCHEM™ Chemical Barrier Technology



Dual zip system ensuring a liquid tight seal

COLD ZONE

AlphaTec®

3000
MODEL 111

Previously known as: MICROCHEM® 3000 Model 111

Durable, comfortable multi-layer chemical barrier material providing an effective barrier against a range of inorganic chemicals and biological agents.

KEY FEATURES & BENEFITS

- Multi-layer barrier fabric provides effective protection against numerous chemicals
- Designed to protect, typical innovative features include dual zip systems and double cuffs
- Lightweight and durable
- Highly visible bright yellow colour for improved worker safety
- Anti-static, tested according to EN 1149-5

RECOMMENDED FOR

- Chemical emergencies
- Protection against virus infections
- Decontamination
- Cleaning and maintenance

STANDARDS & CERTIFICATION

- PPE Category III

TYPE 3-B TYPE 4-B TYPE 5-B EN 1073-2 EN 14126

EN 1149-5

PRODUCT MATERIAL

Multi-layer nonwoven barrier laminate

FEATURED TECHNOLOGIES

MICROCHEM™ Chemical Barrier Technology

SEAM TYPE

Ultrasonically welded and taped seams

Double cuff design

Also available as Model 122

COLD ZONE

AlphaTec®

2300 PLUS
MODEL 132

Previously known as: MICROGARD® 2300 PLUS Model 132

Lightweight and durable chemical protection against a range of inorganic chemicals and biological hazards. Type 3, 4 & 5 protection.

KEY FEATURES & BENEFITS
- A good protective barrier to numerous inorganic liquid chemicals including acids and bases
- Type 3 coverall, lightweight, yet relatively strong and durable
- Designed to protect, typical coverall features include respirator fit hood and a zip flap with self-adhesive tape closure
- Highly visible bright yellow colour for improved worker safety
- Anti-static, tested according to EN 1149-5

RECOMMENDED FOR
- Environmental clean-up and remediation
- Tank cleaning
- Equipment maintenance and repair

STANDARDS & CERTIFICATION
- PPE Category III

TYPE 3-B TYPE 4-B TYPE 5-B EN 1073-2 EN 14126

EN 1149-5

PRODUCT MATERIAL
Polyethylene coated bi-component PP/PE nonwoven

SEAM TYPE
Stitched and taped seams

Finger loops

COLD ZONE

AlphaTec®

2500 PLUS STITCHED & TAPED
MODEL 111

Previously known as: MICROGARD® 2500 PLUS - Model 111

Durable and breathable microporous laminate technology, Type 3/4/5 protection Chemical coveralls offering superior protection, durability and breathability

KEY FEATURES & BENEFITS

- Heightened defenses: AlphaTec® 2500 PLUS Stitched & Taped - Model 111 chemical-resistant coveralls feature excellent protection from biological agents in line with EN 14126 and ASTM F1671 standards
- Specialized protection: This protective suit has type 3-B liquid-tight certification, thanks to its stitched and taped seams, ensuring a stronger and more effective liquid and particle barrier
- Reduced risks: Owing to its durable, microporous polypropylene laminate, this protective outer garment also affords breathability, protecting workers from heat stress
- Increased features: In addition, this anti-static suit boasts ultra-low linting to reduce the risk of cross contamination in critical areas, and has been tested according to EN 1149-5 standards

RECOMMENDED FOR

- Transferring liquids and solids
- Unexpected leakages spills or other releases
- Plant disinfection and sanitization
- Emergency Response
- Spill or leakage cleanup
- Maintenance
- Contaminated Environments

STANDARDS & CERTIFICATION

- CE CATEGORY III

TYPE 3-B TYPE 4-B TYPE 5-B

EN 1073-2 EN 14126 EN 1149-5

PRODUCT MATERIAL

Microporous Polypropylene Laminate non-woven

SEAM TYPE

Stitched and Taped

Finger loops

AlphaTec® Glove Connector

The simple solution for attaching chemical gloves to a selection of AlphaTec® coveralls (previously known as MICROGARD® and MICROCHEM®)

- Innovative design utilising the latest polymer technology
- Creates a liquid-tight seal between glove & cuff
- Consistent and reliable alternative to taping
- Quick and easy fit – improves productivity
- Works with a wide variety of chemical glove thicknesses
- Ribbed cone and collar for secure attachment
- AlphaTec® – advanced chemical protection
- Tested in accordance with ISO 17491-3:2008 – determination of resistance to penetration by a jet of liquid (jet test)

Hands-Free Visor Light System

The AlphaTec® Hands-Free Visor Light System is a short throw illumination system for hands-free operation, designed to offer improved visibility and a safer working environment for the hazmat responder.

- LED (Light Emitting Diodes) - long life time, durable quality & energy efficient
- Panoramic lighting - spreads the light through a wide area with no risk of blinding reflections
- Lightweight - adds minimally to the total weight carried
- Slim design - minimal interference with movement and other equipment
- Fits in AlphaTec® reusable gas-tight suits of encapsulating design (Level A), and can easily be installed in existing type CV or VP1 suits

Tear-off/ATEX lens

Protects the suit visor on reusable gas-tight suits against direct liquid chemical splashes. Tear it off and you have a clear vision again!

The Tear-off / ATEX lens comes in the same designs as the suit visors, i.e. CV or the larger VP1. Fitted with corner tabs for easy grip and tear-off. The lens is quick and easy to attach with two vertical tape stripes.

- Easy to mount
- Thin & glass clear
- Antistatic
- Clear sight in a second if splashed

Anti-fog Lens

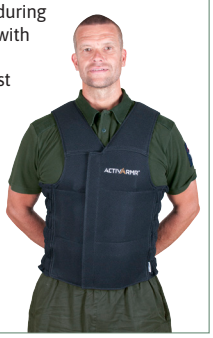
Prevents fog on the visor, inside the suit. Fits all encapsulating AlphaTec® reusable gas-tight suits. The Anti-fog lens comes in the same design as the suit visors i.e. CV and VP1. Attaches to the inside of the visor with a double-sided tape running all around the lens edge, thereby creating a column of dry air between visor and lens.

- Easy to mount
- Functions down to approximately -30 °C

ActivArmr™ Cooling Vest FR

A comfort garment which helps the user to stay comfortable e.g. during work in hot environments or with extreme physical exertion.
It provides a cooling effect just when the body needs it.

- Recharges at room temperature when stored
- Long life time
- Available in a flame retardant version



Bayonet Glove Ring System

Unique glove attachment system which is used on all AlphaTec® gas-tight reusable suits. The system consists of sleeve ring, glove ring, inner ring, safety pin and two Viton rubber O-rings. Colour markings for open/closed position.

- Quick & easy to use
- Triple sealing for enhanced safety
- Chemical resistant material
- Colour markings for open/closed position
- Fits with all glove combinations
- Easy to upgrade old suits

AlphaTec® TRAINER

A suit intended for training only, but with the same design as the real gas-tight intervention suit, to make the training as realistic as possible.

AlphaTec® TRAINER comes in three different designs to fit all user preferences: Type CV (encapsulating with visor, SCBA worn inside the suit), type VP1 (encapsulating with larger visor, SCBA worn inside the suit) or type T (non-encapsulating with face seal, SCBA worn outside the suit).

- Non-certified - training suit only
- Made of a strong, durable and flexible fabric, coated with PVC on both sides, welded seams
- Encapsulating designs are available with rigid or soft visor
- Ventilation system included as standard

AlphaTec® 58-800

Cut and puncture resistant overglove specially designed for AlphaTec® gas-tight suits.

- Extra long shaft - 184 mm - with elastic at the cuff end. Specially designed to fit on top of the AlphaTec® Bayonet glove ring system
- Offers cut and puncture resistance (cut level 3)
- Grip pattern for good wet & dry grip
- Made from 100% aramid fibre
- Certified to EN 388, EN 407 and to EN ISO 21420:2020
- Fulfils NFPA 1991 glove requirements: as the outer glove of an NFPA 1991 glove combination

AlphaTec® 53-001

Coating material	Nitrile/Neoprene/Nitrile layers
Liner material	Nylon
Grip design	ANSELL GRIP™ technology
Cuff style	Gauntlet
Size	6, 7, 8, 9, 10, 11
Length (mm)	350
Thickness (mm)	0.38 (shell)/ 0.05 (grip)
Packaging	6 pairs in a bag, 12 bags in a carton

KEY FEATURES & BENEFITS

- Innovative multi-layer polymer design - nitrile/ neoprene/nitrile layers
- Provides chemical protection against a wide range of chemicals from acids and bases to hydrocarbons and organic solvent
- Tested according to EN ISO 374:2016, permeation time >30 minutes against 13 chemicals out of 18 listed
- Features the latest MICROCHEM™ chemical barrier technology providing superior protection for use in hazardous environments
- ANSELL GRIP™ Technology for the handling of wet or oily parts providing enhanced dexterity, grip and comfort
- Inner soft nylon liner for comfort and increased mechanical protection

RECOMMENDED FOR

- Chemical handling including petroleum & oil (hydrocarbons)
- Handling parts covered in hydraulic fluids
- Cleaning of surfaces & equipment

STANDARDS & CERTIFICATIONS

- PPE Category III

EN ISO 374-1:2016 TYPE A: ANSI 3 ABR; ACFGJKLMNOPST | EN 388: 3121A | EN 407:2020: X1XXXX

EN ISO 374-5:2016

OEKO-TEX® CONFIDENCE IN TEXTILES STANDARD 100 1408033 Centexbel
Tested for harmful substances. www.oeko-tex.com/standard100

FEATURED TECHNOLOGIES

ANSELL GRIP™ Ansell Grip Technology

MICROCHEM™ Chemical Barrier Technology

AlphaTec® 38-628

Previously known as: ChemTek™ 38-628

Coating material	Butyl, Viton
Liner material	n/a
Grip design	Smooth finish
Cuff style	Rolled beaded
Size	9, 10
Length (mm)	350
Thickness (mm)	0.70
Packaging	12 pairs in a carton, individually wrapped

KEY FEATURES & BENEFITS

- Made of two layers to provide the best resistance to the most aggressive chemicals without compromising dexterity or comfort
- Offers superior protection against aliphatic, halogenated and aromatic hydrocarbons (benzene, toluene, xylene) as well as concentrated mineral acids
- Very good flexibility
- Natural, curved ergonomic shape and soft feel offering easy donning and good grip
- AQL 1.5

RECOMMENDED FOR

- Approved for use with AlphaTec® gas-tight reusable suits
- Protection against warfare agents

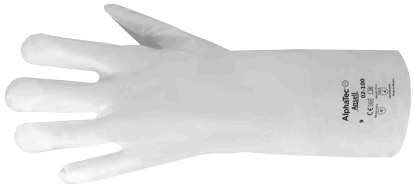
STANDARDS & CERTIFICATIONS

- PPE Category III

EN ISO 374-1:2016 TYPE A: ABCDFLNS | EN 388: 2120A | EN ISO 374-5:2016

AlphaTec® 02-100

Previously known as: Ansell Barrier™



Coating material	LLDPE laminated film
Liner material	n/a
Grip design	Smooth finish
Cuff style	Gauntlet
Size	7, 8 ,9, 10, 11
Length (mm)	380 - 410
Thickness (mm)	0.062
Packaging	1 pair in a bag, 12 pairs in a master bag, 6 master bags in a carton

KEY FEATURES & BENEFITS

- 5 protective layers of laminated film for excellent resistance against a wide range of chemicals and biological hazards
- Hand-specific design
- Exceptional barrier integrity with very low AQL, and all gloves individually air-pressure tested
- AQL 0.065

RECOMMENDED FOR

- Approved for use as underglove with AlphaTec® gas- tight reusable suits

STANDARDS & CERTIFICATIONS

- PPE Category III

EN ISO 374-1:2016 TYPE A: ABCEFGHILMS | EN ISO 374-5: 2016: VIRUS

AlphaTec® 38-560

Coating material	Butyl
Grip design	Rough finish
Cuff style	Gauntlet
Size	7, 8, 9, 10, 11
Length (mm)	350
Thickness (mm)	0.70
Packaging	10 pairs in a bag, 10 bags in a carton

KEY FEATURES & BENEFITS

- Excellent protection against gas, ozone in particular
- Unflocked butyl glove
- Longer gauntlet style cuff for extra protection
- Beaded cuff for tear resistance and easy donning
- Rough finish on the hand for safer handling
- AQL 1.0

RECOMMENDED FOR

- Available as an option for AlphaTec® TRAINER and splash protective suits in the 66-3xx range

STANDARDS & CERTIFICATIONS

- PPE Category III

EN ISO 374-1:2016 TYPE A ABIKPT
EN 388 1020X
EN ISO 374-5:2016

AlphaTec® 58-535B

Coating material	Nitrile
Liner material	Acrylic
Grip design	ANSELL GRIP™ technology
Cuff style	Gauntlet
Size	7, 8 ,9, 10, 11
Length (mm)	356
Thickness (mm)	0.062
Packaging	6 pairs in a bag, 12 bags in a carton

KEY FEATURES & BENEFITS

- Featuring ANSELL GRIP™ Technology to enable users to handle wet or oily objects with less grip force and more control
- Solid nitrile shell for high protection against exposure to bases, oils, fuels, some solvents and greases
- Black acrylic liner recommended for outdoor applications
- AQL 0.65

RECOMMENDED FOR

- For protection when refueling trucks and handling chemicals, especially in cold weather conditions

STANDARDS & CERTIFICATIONS

- PPE Category III

EN ISO 374-1:2016 TYPE A AJKLOPT
EN ISO 374-5: 2016
ANSI 5 ABR
EN 388 3122A
EN 407:2020 X1XXXX

FEATURED TECHNOLOGIES

ANSELL GRIP™ Ansell Grip Technology

AlphaTec® 53-002/003

Coating material	Nitrile
Liner material	Nylon
Grip design	Raised Diamond
Cuff style	Straight
Size	7, 8, 9, 10, 11
Length (mm)	350
Thickness (mm)	0.43 mm / 17 mil
Packaging	6 pairs in a bag, 12 bags in a carton

KEY FEATURES & BENEFITS

- Protection: Extremely Broad Chemical Permeation performance (17 out of 18 on EN ISO 374)
- Comfort: Unique donning/doffing layer

RECOMMENDED FOR

- For revolutionary Hybrid Technology delivering a breakthrough in chemical performance

STANDARDS & CERTIFICATIONS

- PPE Category III

EN ISO 374-1:2016 TYPE A AJKLOPT
EN ISO 374-5: 2016
EN 388 3132A
EN 421

AlphaTec® 58-735

Coating material	Nitrile
Liner material	INTERCEPT™ Technology yarn
Grip design	ANSELL GRIP™ Technology
Cuff style	Gauntlet
Size	7, 8, 9, 10, 11
Length (mm)	350
Thickness (mm)	1
Packaging	6 pairs in a bag, 12 bags in a carton

KEY FEATURES & BENEFITS

- Nitrile barrier provides advanced chemical protection from many frequently used chemicals
- INTERCEPT™ Technology provides ISO C cut protection
- ANSELL GRIP™ Technology for the handling of wet or oily parts providing enhanced dexterity, grip and comfort
- AQL 0.65

RECOMMENDED FOR

- Handling of sharp or oily objects and tools

FEATURED TECHNOLOGIES

ANSELL GRIP™ Ansell Grip Technology

INTERCEPT™ Cut Resistance Technology

STANDARDS & CERTIFICATIONS

- PPE Category III

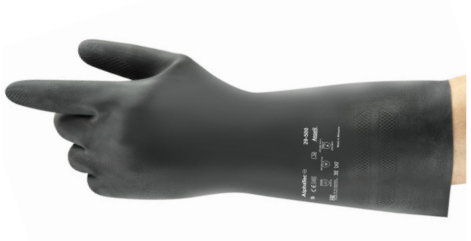
EN ISO 374-1:2016 TYPE A AJKLMNOPT · EN ISO 374-5: 2016 · EN 388 4X32C

EN 407:2020 X1XXXX · ANSI 6 ABR · ANSI A3 CUT

OEKO-TEX® CONFIDENCE IN TEXTILES STANDARD 100 1408033 Centexbel
Tested for harmful substances. www.oeko-tex.com/standard100

AlphaTec® 29-500

Previously known as: NEOTOP™ 29-500



Coating material	Neoprene
Liner material	Cotton flocking
Grip design	Lozenge
Cuff style	Straight
Size	7, 8, 9, 10, 11
Length (mm)	300
Thickness (mm)	0.70
Packaging	12 pairs in a bag, 12 bags in a carton

KEY FEATURES & BENEFITS

- Ideal for use in cold conditions: neoprene maintains its superb elasticity even at low temperatures
- Protects against a wide range of acids, caustics, alcohols and many solvents
- Superior flexibility and much less tiring to the hands than comparable heavy duty gloves
- Flock lined in pure cotton for better comfort and perspiration absorption
- AQL 0.65

RECOMMENDED FOR

- Chemical handling and maintenance

STANDARDS & CERTIFICATIONS

- PPE Category III

EN ISO 374-1:2016 TYPE A AKLNPT · EN ISO 374-5:2016 VIRUS · EN 388 X121A

AlphaTec® 38-001

Coating material	Butyl Polymer
Grip design	Raised Diamond
Cuff style	Extended
Size	7, 8, 9, 10, 11
Length (mm)	350
Thickness (mm)	0.35mm
Packaging	1 pair per bag, 36 bags per carton

KEY FEATURES & BENEFITS

- Extended forearm protection
- Excellent dry & wet grip enhance dexterity and reduce hand fatigue
- Wide cuff to allow donning over protection clothing

RECOMMENDED FOR

- Delivering high level of comfort and chemical protection

STANDARDS & CERTIFICATIONS

- PPE Category III

EN ISO 374-1:2016 TYPE A ABIKPT · EN ISO 374-5:2016

AlphaTec® 58-001

Coating material	Nitrile
Grip design	Lozenge
Cuff style	Gauntlet
Size	7, 8 ,9, 10, 11
Length (mm)	330 / 13
Thickness (mm)	0.38 / 15
Packaging	12 pairs per bag,12 bags in a carton

KEY FEATURES & BENEFITS

- NUnique nitrile and carbon formulation: Consistent static dissipation
- High performance nitrile compound: Superior mechanical protection
- Reverse lozenge finish: For improved dry and wet grip

RECOMMENDED FOR

- Protective gloves designed for static hazard and high explosive risk environments

STANDARDS & CERTIFICATIONS

- PPE Category III

EN 388:2016 4102X · EN ISO 374-1:2016 TYPE A AJKLOPT · EN ISO 374-5: 2016

AlphaTec® 58-008

Coating material	Nitrile
Liner material	Nylon
Cuff style	Extended
Size	8, 9, 10
Length (mm)	640
Thickness (mm)	0.5 (shell)/ 19.7 (grip)
Packaging	10 pairs per bag,1 bag per carton

KEY FEATURES & BENEFITS

- Nitrile polymer gloves: Excellent mechanical and chemical protection
- Extended and wide cuff: For full arm protection
- Lozenge grip pattern: Enhanced grip and dexterity

RECOMMENDED FOR

- Nitrile polymer gloves with an extended full-arm cuff for enhanced chemical resistance

STANDARDS & CERTIFICATIONS

- PPE Category III

EN ISO 374-1:2016 TYPE A AJKLOPT · EN ISO 374-5: 2016 · ANSI 5 ABR · EN 388 3132A · EN 407:2020 X1XXXX

FEATURED TECHNOLOGIES

ANSELL GRIP™ Ansell Grip Technology

AlphaTec® Solvex® 37-676

Previously known as: Solvex® 37-675

Coating material	Nitrile
Liner material	Flocked
Grip design	Sandpatch
Cuff style	Gauntlet
Size	6, 7, 8, 9, 10, 11
Length (mm)	330
Thickness (mm)	0.38
Packaging	12 pairs in a bag, 12 bags in a carton

KEY FEATURES & BENEFITS

- Combining ruggedness and chemical resistance, protects workers' hands exposed to a greater variety of chemical hazards
- High performance nitrile compound, providing an outstanding combination of chemical resistance & strength for optimal results in wet or dry work environments
- The glove offers a far superior snag, puncture and abrasion protection compared with rubber or neoprene gloves
- High levels of flexibility, comfort and dexterity
- Will not swell, weaken or degrade, and does not promote contact dermatitis

RECOMMENDED FOR

- Chemical handling and maintenance

STANDARDS & CERTIFICATIONS

- PPE Category III

EN ISO 374-1:2016 TYPE A JKLOPT · EN 388 4101X · G2 ISO 18889 · EN ISO 374-5:2016 VIRUS

HyFlex® 74-045

Previously known as Monysoft 1

Construction	Knitted
Liner material	Nylon
Gauge	13
Cuff style	Knitwrist
Length (mm)	7, 8, 9, 10, 11
Thickness (mm)	210 - 251
Packaging	12 pairs in a bag, 12 bags in a carton

KEY FEATURES & BENEFITS

- Made of high-elasticity polyamide for optimal fit
- Excellent comfort and dexterity
- Ambidextrous to increase wear life
- Low-lint glove

RECOMMENDED FOR

- Can be used as an underglove for the chemical glove range

STANDARDS & CERTIFICATIONS

- PPE Category I

EDGE® 76-200

Previously known as Stringknits™ 76-200

Construction	Knitted
Liner material	Nylon
Gauge	13
Cuff style	Knitwrist
Size	7, 8, 9, 10
Length (mm)	190 - 235
Packaging	12 pairs in a bag, 12 bags in a carton

KEY FEATURES & BENEFITS

- Can be worn on their own or as liners
- Softer, more comfortable, flexible and low-lint
- No seams to rub or irritate
- Stringknit construction allows good air flow to the hand: hands don't become hot and sweaty
- Ambidextrous: no need to pair, therefore more economical
- Washable at 40°C: more hygienic for the wearer and better value for the provider

RECOMMENDED FOR

- Can be used as an underglove for the chemical glove range

STANDARDS & CERTIFICATIONS

- PPE Category II

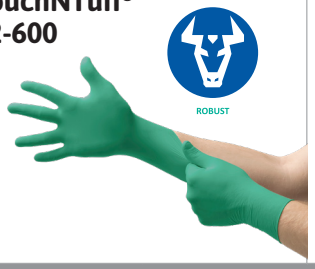
EN 388

214XA

HAND PROTECTION SOLUTIONS - Single-Use Gloves

Glove Name	Material & Colour	Standards & Certification	Applications	Key Features & Benefits
MICROFLEX® 93-260 	Nitrile + Neoprene (Polychloroprene) Colour: Green	PPE Category III EN ISO 21420:2020 EN 388 (2000X) EN ISO 374-5:2016 (Virus) EN ISO 374-1:2016 (JKLOPST)	First Responders, EMS, Police, Crime Scene Investigation, Hazmat Teams, CBRN Teams, Rescue Teams	· Three layer design for superior protection against harsh chemicals · The thinnest chemical resistant disposable glove for enhanced tactility and dexterity · Extra soft material and ergonomic design for outstanding fit, feel and flexibility · Lower acceptable pinhole rate (0.65 AQL) for reliable protection against hazardous substances · Tested against both fentanyl and gastric acid (vomit) to simulate hazardous, real world overdose situations

Tactility	Strength	Puncture	Wet Grip	Damp Donning	Fentanyl Testing	Extended Protection	Barrier Integrity AQL
* * *	* * * * *	* * * * *	* * *	* * * * *	YES	YES	0.65

TouchNTuff® 92-600	Material & Colour	Standards & Certification	Applications	Key Features & Benefits
	Nitrile Colour: Green	PPE Category III EN ISO 21420:2020 EN ISO 374-5:2016 (Virus) EN ISO 374-1:2016 (JKPT) ISO 18889 (G1) Food approved	First Responders, EMS, Police, Crime Scene Investigation, Hazmat Teams, Rescue Teams	· Proprietary Ansell material formulation offers enhanced chemical splash protection · Soft nitrile provides high levels of comfort · Robust design for superior durability · Silicone free design is paint and finish process friendly · Also available in packaging to fit vending machines

Tactility	Strength	Puncture	Wet Grip	Damp Donning	Fentanyl Testing	Extended Protection	Barrier Integrity AQL
* * * *	* * * *	* * *	* * * *	* * * * *	NO	NO	1.5

MICROFLEX® 93-753/853	Material & Colour	Standards & Certification	Applications	Key Features & Benefits
	Nitrile Colour: Violet Blue	PPE Category III EN 455 1-4 EN ISO 374-5:2016 (Virus) EN ISO 374-1:2016 (KPT)	First Responders, EMS, Police, Crime Scene Investigation, Rescue Teams	· Extended chemical splash protection, tested for handling chemotherapy drugs · Superior strength and durability for maximum protection against rips, snags or tears · Low, 0.65 AQL for advanced barrier protection · Tested against both fentanyl and gastric acid (vomit) to simulate hazardous, real world overdose situations

Tactility	Strength	Puncture	Wet Grip	Damp Donning	Fentanyl Testing	Extended Protection	Barrier Integrity AQL
* * *	* * * * *	* * * * *	* * *	* * * * *	YES	YES	0.65

MICROFLEX® 94-242	Material & Colour	Standards & Certification	Applications	Key Features & Benefits
	Nitrile Colour: Black	PPE Category III EN 16350:2014 EN ISO 374-1:2016 (JKPT) EN ISO 21420:2020 Food Approved	For applications in the maintenance department and mechanical division, Crime Scene investigations and Hazmat	· Static dissipative glove reduces the risk of electrostatic discharge · Capacitive and resistive touchscreen capability for working with electronics · Low vertical resistancze below 108 Ω · Distinctive black colour hides stains and provides contrast for improved visibility

Tactility	Strength	Puncture	Wet Grip	Damp Donning	Fentanyl Testing	Extended Protection	Barrier Integrity AQL
* * * *	* * * *	* * *	* * * *	* * * * *	NO	NO	1.5

MICROFLEX® 92-605	Material & Colour	Standards & Certification	Applications	Key Features & Benefits
	Nitrile Colour: Black	PPE Category III EN 455 1-4 EN ISO 374-5:2016 (Virus) EN ISO 374-1:2016 (JKT) ISO 18889 (G1)	For applications in the maintenance department and mechanical division	· Non-foaming for easy handling of objects in wet environments · Distinctive black colour hides stains and provides contrast for improved visibility · Fully textured design for confident grip

Tactility	Strength	Puncture	Wet Grip	Damp Donning	Fentanyl Testing	Extended Protection	Barrier Integrity AQL
* * * *	* * * *	* * *	* * * *	* * * * *	NO	NO	1.5

- Fentanyl Testing - PASS/FAIL mark for ASTM D6978 is >240 minutes
- Wet Grip: Feature that ensures protection against body fluids and blood pathogens
- Tactility: Important feature for easy handling of small parts or tools
- All gloves are Latex-free

HAND PROTECTION SOLUTIONS - Mechanical Gloves

Glove Name		Protection Type	Cut Protection	Grip	Standards & Certification	Applications	Key Features & Benefits
HyFlex® 11-840		Palm coated	Low	Dry / light oil	PPE Category III EN 388 (4131A) EN 407 (X1XXXX) Oeko-Tex® Standard 100 Dermatest® certified	Light duty/multi-purpose glove with superior fit Extreme durability in repeated applications where abrasion resistance is required	· Latex free · Fortix™ Abrasion Resistance Technology · Nitrile foam coating · Clean and skin friendly, silicone free
HyFlex® 11-571		Palm dipped	High (EN ISO D)	Dry/oil	Ecovadis EN 16350 EN 388:2016 (4X43D) Food Approved Oeko-Tex® Standard 100 Dermatest® certified	For applications where grip is required in oil/ lubricant environments Maintenance Assembly and handling sharp metal parts	· FORTIX™ Abrasion Resistance Technology · INTERCEPT™ Cut Resistance Technology · Provides protection against industrial fluid exposure · Ultra-lightweight design for enhanced comfort · Excellent cut and abrasion resistance · Touchscreen compatibility and ESD protection
EDGE® 48-919		Fully dipped	Low	Dry/oil	PPE Category II EN ISO 21420:2020 EN 388 (4121A)	For applications where grip is required in oil/lubricant environments Maintenance of tanks	· Fully NBR dipped to provide protection against industrial fluid exposure · Excellent abrasion resistance · Double layer nitrile coating keeps hands dry and comfortable when handling oily parts and tools
ACTIVARMR 80-813 *Previously known as PowerFlex® 80-813*		Palm coated	High (EN ISO C) + Heat	Dry	PPE Category III EN 388 (2X42C) EN 407 (412110) Arc Rating (ATPV) = 9.4 cal/cm² Arc Category Level 2 per ASTM F2675/F 2675M -13	Applicable for facility and machinery maintenance Tasks involving potential risk or accelerants and flame	· Heavy duty Arc flash and cut protective glove · Superior flame-resistant protection · DupontTM Kevlar® liner · Ergonomic design for flexibility and grip · Proprietary soft foam coatingto secure grip

HyFlex®, EDGE® and ACTIVARMR® gloves are washable at 40°C.

RINGERS® GLOVES

TACTICAL AND IMPACT GLOVES

Glove Name	Standards & Certification	Key Features & Benefits
R-163 Tactical Medium Duty 	PPE Category II EN 388 (2121XP)	· Tactical glove with Thermoplastic Rubber impact protection on top of the hand and full length of fingers · Touchscreen compatible index, middle and thumb tips
R-133 	PPE Category II EN 388 (2121X)	· Secure cuff with hook and loop TPR pull tab closure · Soft and durable premium mesh fabric on top of hand for optimal comfort and flexibility · Premium synthetic leather used for split palm construction for long lasting durability · Wrap around index finger protecting wear and tear zone · Lightweight fabric between fingers for excellent dexterity · Touchscreen compatible index, middle and thumb tips
R-074/075 	PPE Category III EN 388 (4X41CP) EN ISO 374-5: 2016 *R-074 only:* EN ISO 374-1: 2016 Type A (AJKLMO) *R-075 only:* EN ISO 374-1: 2016 (KLMOPT)	· TPR impact protection on top of hand and full length of fingers · PVC coating for waterproof and chemical resistance · Inside liner provides all-around 360 degree cut resistance · Durable textured palm coating for enhanced grip · CE rated for EN374-1:A (Methanol) J (n-Heptane) K (Sodium Hydroxide 40%) L (Sulfuric Acid 96%) M (Nitric Acid 65%) O (Ammonium Hydroxide 25%) · Short gauntlet-style cuff to keep debris away from hands
R-068 	PPE Category II EN 388 (4X44FP) ANSI / ISEA 138 (2)	· TPR impact protection on top of hand and full length of fingers · Proprietary double dipped technology · Full-dipped nitrile in smooth finish for liquid resistance · Half-dipped nitrile coating on palm with sandy finish for enhanced grip · Sandy finish for superior grip on wet and dry surfaces · High visibility for increased safety · Touchscreen compatible index, middle and thumb tips
R-085 	PPE Category II EN 388 (4X44FP) ANSI / ISEA 138 (2)	· Breathable knit shell offers cut resistance · TPR impact protection on top of hand and full length of fingers · Palm-dipped nitrile coating on palm with sandy finish for enhanced grip · Fleece lined for added warmth in cold temperatures · TCR patch to reinforce wear & tear zone · Superior grip on wet and dry surfaces · High visibility for increased safety · Touchscreen compatible index, middle and thumb tips

VIKING™

PROTECH II

WATER ZONE

A flexible dry suit designed for maximum comfort in a wide range of applications, particularly suited for military use. Rear entry design. Vulcanised seams allow for peace of mind when diving under all situations. The VIKING™ PROTECH II is easy to clean and repair, which helps to minimise downtime.

KEY FEATURES & BENEFITS
- Extremely flexible and comfortable suit
- Ideal for military operations and for law enforcement & fire rescue teams where flexibility is essential
- Internal stitched and taped seams
- External vulcanised seams
- Easy to clean exterior when contaminated
- Easy to repair in the field minimising downtime
- Fitted with push-protected inlet valve and VIKING™ X2 exhaust valve. Options include non-magnetic valves and Apeks valves

RECOMMENDED FOR
- Underwater search and recovery
- Disaster recovery
- Inspection diving
- Maintenance inspection
- Military diving

STANDARDS & CERTIFICATION
- PPE Category III

HZ BIO

EN 14225-2:2017
Including BIO and HZ chemical protection requirements
(only applies to suits without valves fitted)

PRODUCT MATERIAL
Blend of natural and synthetic rubbers (NR/EPDM), on a stretch polyamide/elastane lining.
Total material weight: 1250 +/- 100 g/m^2

SEAM TYPE
Internal: Stitched together with an elastic tape for security
External: Vulcanised with rubber tape

VIKING™

HAZTECH

WATER ZONE

The VIKING™ HAZTECH is a lightweight robust suit for diving in hazardous water conditions, particularly where there may be a danger of heat exhaustion in warm water or hot climatic conditions.

KEY FEATURES & BENEFITS
- Lightweight and robust material
- High frequency welded seams for maximum strength and safety
- Ideal for warm water and/or warm climate diving
- Suitable for cold water diving (tested for flex cracking at -40°C for >200 flexes)
- Easy to clean exterior surface
- Available in black or red with black reinforcements
- Fitted with push-protected inlet valve and VIKING™ X2 exhaust valve. Options include non-magnetic valves

RECOMMENDED FOR
- Underwater inspection
- Navy diving
- Inspection diving
- Maintenance inspection
- Special forces diving
- Underwater search and recovery

STANDARDS & CERTIFICATION
- PPE Category III

HZ BIO

EN 14225-2:2017
Including BIO and HZ chemical protection requirements
(only applies to suits without valves fitted)

PRODUCT MATERIAL
TPU (thermoplastic polyurethane) outer layer in red or black, single coated onto a black knitted nylon fabric. Total material weight is approximately 480 ± 40 g/m^2.
The material offers chemical and microorganism protection.

SEAM TYPE
Internal: Heat applied seam tape
External: High frequency (HF) welded.

VIKING™ HAZTECH in red/black with Superlite 27 yoke.

VIKING™ PRO

WATER ZONE

Ansell's biggest selling drysuit worldwide. Designed for flexibility and comfort in a wide range of applications. Vulcanised seams allow for peace of mind when diving under all situations.

KEY FEATURES & BENEFITS

- Internal seams stitched and taped for security
- External seams vulcanised for peace of mind
- Easy to clean exterior when contaminated
- Easy to repair in the field to minimise downtime
- Flexible and comfortable
- Available in black or black with red reinforcements on shoulder
- Fitted with push-protected inlet valve and VIKING™ X2 exhaust valve. Options include non-magnetic valves and Apeks valves

RECOMMENDED FOR

- Underwater search and recovery
- Disaster recovery
- Inspection diving
- Maintenance inspection
- Military diving

STANDARDS & CERTIFICATION

- PPE Category III

BIO

EN 14225-2:2017
Including BIO protection requirements
(only applies to suits without valves fitted)

PRODUCT MATERIAL

The VIKING™ PRO material is a blend of natural and synthetic rubbers (NR/EPDM), on a 2-way stretch knitted polyester lining. Total material weight is 1050 +/- 100 g/m^2. The material offers microorganism protection.

SEAM TYPE

Internal: Stitched and taped
External: Vulcanised with rubber tape

Good Grip gloves

VIKING™ VTS

WATER ZONE

Lightweight but robust trilaminate suit designed for use by divers to whom contaminated water is not an issue, but strength and puncture resistance is a must. VIKING™ VTS is in use worldwide with not only technical divers, but also special forces, police dive teams and fire & rescue squads.

KEY FEATURES & BENEFITS

- Lightweight puncture and abrasion resistant materials
- Unique "Vulca-Seam technology" ensures watertight seams
- Fitted with a Surveyor latex neck seam as standard
- Easy to transport due to low weight and ease of storage
- Available in black
- Fitted with push-protected inlet valve and low-profile exhaust valve. Options include non-magnetic valves and Apeks valves

RECOMMENDED FOR

- Underwater search and rescue
- Special forces diving
- Technical diving
- Inshore diving

STANDARDS & CERTIFICATION

- PPE Category II
- EN 14225-2:2017

PRODUCT MATERIAL

400 g/m^2 Polyester outer / Butyl rubber / Polyester inner material

SEAM TYPE

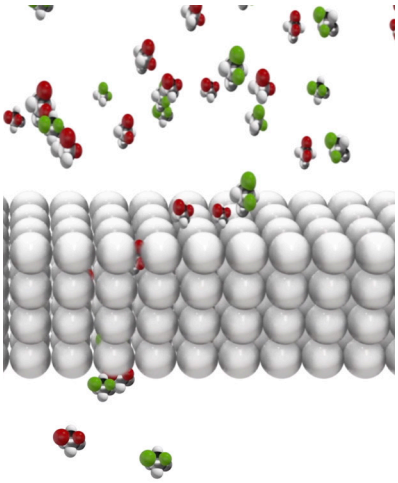
Internal: Vulcanised
External: Folded and stitched

VIKING™ VTS tech pockets

GUIDANCE ON CHEMICAL PERMEATION AND PENETRATION

What is permeation?

Permeation is the process by which a potentially hazardous chemical moves through a material on a molecular level. Molecules of chemical adsorb onto the outer surface of the material. They then enter and diffuse through the material and are released or desorbed from the inner surface.



Measuring permeation
The resistance of a protective clothing fabric to permeation by a potentially hazardous chemical is determined by measuring the breakthrough time and the permeation rate of the chemical through the fabric.

Permeation test methods
There are various permeation test methods in use today. Which one to use depends on a number of factors including the country of use for the protective clothing, and the type of chemical (i.e. gas or liquid).

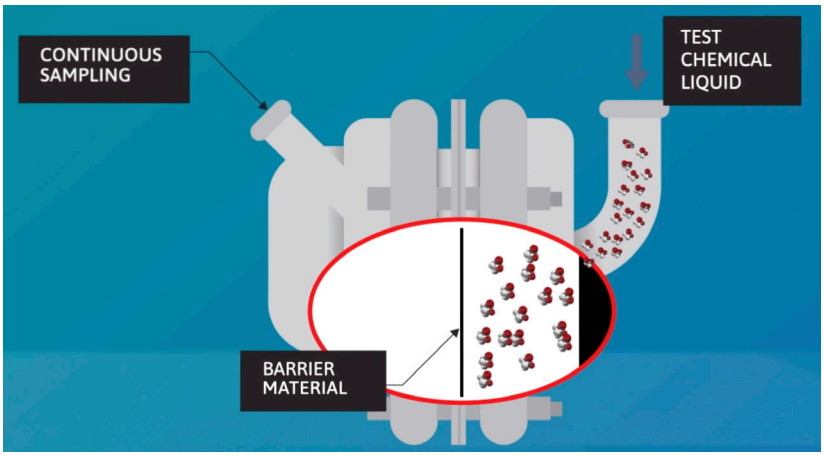
Permeation rate (PR)
This is the rate at which the potentially hazardous chemical permeates through the test fabric and is expressed as a mass of chemical flowing through a given fabric area per unit of time, i.e. 1.0 µg/cm^2/min or one millionth of a gram per square centimetre per minute.

Breakthrough detection time (BDT)
The average time elapsed between initial contact of the chemical with the outside surface of the fabric and the detection of the chemical at the inside surface by the analytical device. A breakthrough detection time of ≥480 min and a permeation rate below the minimum detectable permeation rate (MDPR) does not mean breakthrough has not occurred. It means that permeation was not detected after an observation time of eight hours. Permeation may have occurred, but at a rate less than the minimum detectable permeation rate or MDPR. MDPR can vary depending on the chemical or the analytical device/test method.

Breakthrough time (BT)
This is the average time between initial contact of the chemical with the outside surface of the fabric and the time at which the chemical is detected at the inside surface of the fabric at the normalised permeation rate specified by the appropriate standard.
The key test methods and the normalised permeation rates required are listed below;

1) EN 16523-1 EN 16523-2 which measures the breakthrough time to 1.0 µg/cm^2/min using three samples.
2) ISO 6529 specifies BT to be reported at the normalised permeation rate of 1.0 µg/cm^2/min (BT $^{1.0}$) or 0.1 µg/cm^2/min (BT $^{0.1}$), with the mean BT to be recorded.
3) ASTM F739 specifies results to be recorded as breakthrough time (BT) at 0.1 µg/cm^2/min.

In Europe (as specified in EN 14325:2018) ISO 6529 will be used for permeation testing, and the normalised breakthrough time is recorded at the permeation rate of 1.0 µg/cm^2/min. The resistance of AlphaTec® garments to permeation by a hazardous chemical is determined by measuring the breakthrough time and permeation rate of the chemical through the fabric. Permeation tests are performed by independent, accredited laboratories in accordance with ISO 6529, EN 16523-1/-2 or ASTM F739



What is penetration?

Penetration is a process by which a chemical flows through holes (i.e. pores) or essential openings in a material or product at a macroscopic level.

Penetration test methods
There are various penetration test methods in use today. Which one to use depends on a number of factors, including the country of use for the protective clothing and the task for which the chemical protective clothing will be used.

EN ISO 6530 "Gutter test" - Test method for the measurement of indices of penetration, absorption and repellence for protective clothing materials against liquid chemicals, mainly chemicals of low volatility.

ISO 13994 "Penetration under pressure test" - ISO 13994 describes a series of test methods that enable the determination of the resistance of materials used in protective clothing to visible penetration under the conditions of continuous liquid contact and pressure.

ASTM F903 - The US equivalent of ISO 13994 procedure C1. Specified in NFPA 1992 (Liquid tight protective clothing for emergency responders)

EN 14786 "Atomiser test" - Test method to determine the resistance of protective clothing materials against penetration by atomised liquid chemicals, emulsions and dispersions.

AnsellGUARDIAN®

Performed by our safety experts, AnsellGUARDIAN® is a personalised service that enables our customers to create a safer, more productive, and less injury-prone work environment. Using our safety expertise and a data-driven methodology, we provide a unique assessment tailored to each customer's needs.

Assessments conducted in **35+** countries industries

Saving our partners **$211m+** averaging **~$20k** per customer

SAFETY. tailor-made

Safety & Compliance

We provide a personalised risk management solution that leads to improved worker safety, injury reduction, and increased regulatory compliance.

Cost Performance

We advise on business performance improvements that result in lower overall costs for your company.

Productivity

We deliver best practice recommendations to optimise your PPE dispensing, improve your company's output, and eliminate waste, leading to an increase in productivity.

How we do it:

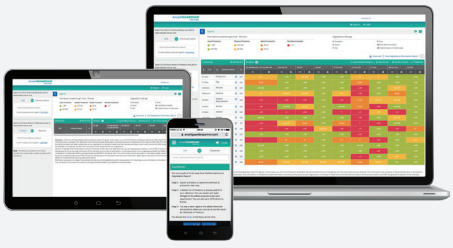
Data Collection > In-Plant Assessment* > Analysis and Recommendations > Validation Testing > Implementation > Training > Expansion

**Virtual assessment also possible*

Get started with a complimentary assessment today at: **www.ansell.com/ansellguardian/contact**

AnsellGUARDIAN® Chemical

Uncover chemical protection uniquely tailored to your specific needs. Leverage AnsellGUARDIAN® Chemical, Ansell's suite of digital tools, to simplify your personal protective equipment (PPE) selection process and protect your workers from chemical hazards.



- Our advanced chemical product selector tool features an extensive product database, providing you with product suggestions based on chemical hazards and application requirements to keep your workforce safer
- Our permeation and degradation database specialises in products with chemical resistance, supplying live access to data for thousands of product and chemical combinations
- Access permeation product test data from our rich database
- Work with Ansell reps to gain highly specific chemical mixture insights

Use our extensive data-backed toolkit today by visiting us at: **www.ansellguardianchemical.com**

For more information, contact your Ansell representative or visit www.ansell.com

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PRODUCT DISCLAIMER AND WARNING: Products containing natural rubber latex may cause allergic reactions in some individuals. Products that provide "cut resistance" and "cut protection" or "puncture resistance" and "puncture protection" do not completely prevent or eliminate the potential for cuts or punctures, and are not intended or tested to provide protection against powered blades, serrated or other sharp or rotating equipment. Products that provide "abrasion resistance" or "abrasion protection" do not completely prevent or eliminate the potential for abrasion-related injuries. Products that provide "resistance" to oil or grease or which are "oil repellant" do not completely prevent or eliminate the potential for oil or liquid penetration or absorption. Products that provide "snag resistance" or "snag protection" do not completely prevent or eliminate the potential for snags or friction-related injuries. Products that provide protection against sparks or flame are not "fire-proof" and do not completely prevent or eliminate the potential for burns or associated injuries. Products that provide protection or resistance against heat or cold are not intended for use in extreme temperatures - use only as specified.

Products that provide "chemical resistance" or "chemical protection" do not completely prevent or eliminate the potential for injury due to chemical exposure, and where specific chemical permeation times are provided, they are based on laboratory environments that may differ from a user's worksite. Users should test chemical protective products against the particular environments and chemicals where the product is to be used.

Users are encouraged to always use caution and care when handling sharp or abrasive materials, chemicals, or other hazardous or dangerous substances. Any information or data provided is based upon Ansell's current knowledge and understanding of the subject matter, and is offered solely as a possible suggestion for use in making your own decisions or product choices. Product users should conduct all appropriate testing or other evaluations to determine the suitability of Ansell products for a particular purpose or use within a particular environment. Ansell may revise this information as new information, knowledge or experience becomes available. ANSELL DISCLAIMS ALL WARRANTIES OTHER THAN AS EXPRESSLY PROVIDED. According to current OSHA regulations, the employer has the final responsibility for selecting gloves and other personal protective equipment.

V(2)10/22 EN